

Digital Tax Systems and Revenue Collection Efficiency

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DECLARATION

I, **Davina Ominken ODIASE** do hereby declare that:

1. I conducted this research for my project at the University of Benin's Department of Accounting, where I was supervised by **Dr G.O IKHU-OMOREGBE** of the same department and the Faculty of Management Sciences in Benin City, Nigeria.
2. There has been no prior submission of this work for a degree elsewhere.
3. All thoughts and opinions are based on my own research, and where others have shared their perspectives, they have been properly cited.
4. I accept complete and utter responsibility for any potential legal consequences that may arise as a result of this study.

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CERTIFICATION

We certify that this research was carried out by **Davina Ominken ODIASE** in the Department of Accounting, Faculty of Management Sciences, University of Benin, Benin City, Nigeria, and it is considered adequate in scope and quality in partial fulfilment of the requirements for the award of the degree of Bachelor of Science (Accounting).

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DEDICATION

This work is dedicated to God Almighty, the Author of life and Source of all wisdom, His divine guidance has directed my path throughout this journey, and his strength has sustained me through every challenge. By His grace, I have completed each phase of this programme, receiving unwavering support and blessing along the way.

To Him belong all glory and honour, now and forever, for His unfailing love and guidance.

This achievement is made possible only through His grace. May His holy name be praised forever.

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ABSTRACT

This study examined the effect of digital tax systems on revenue collection efficiency in Nigeria, focusing on electronic tax filing systems, electronic payment platforms, taxpayer digital registration and identification systems, and automated tax assessment and reporting systems. The research was motivated by persistent inconsistencies in revenue collection efficiency and administrative leakages within the Nigerian tax framework despite ongoing digital reforms. Anchored on the Technology Acceptance Model (TAM), the study adopted a qualitative research design. Primary data were gathered via a structured questionnaire administered to a sample of 384 respondents, comprising officials of the Nigeria Revenue Service (NRS) and active taxpayers, yielding 383 valid observations, which were analysed using Ordinary Least Squares (OLS) regression. The empirical findings revealed that electronic payment platforms and taxpayer digital registration and identification systems have positive and statistically significant effects on revenue collection efficiency, indicating that secure payment channels and robust databases enhance tax administration, curb revenue diversion, and improve taxpayer tracking. Conversely, electronic tax filing systems and automated tax assessment and reporting systems exhibited positive but statistically insignificant relationships with revenue collection efficiency. This insignificance highlights operational constraints, such as technical system errors, infrastructure deficits, and limited user adaptability, that hinder the full realisation of the benefits of automated assessment and e-filing. The study concludes that while digital tax systems are vital mechanisms for maximising revenue performance, their efficiency gains depend heavily on the reliability of the infrastructure. It is recommended that tax authorities invest in robust digital infrastructure to eradicate system downtime, strengthen secure payment integrations, expand the taxpayer database, and enhance digital literacy among administrators and taxpayers.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Taxation plays a central role in a country's economic growth and development by enabling governments to generate revenue for public services and infrastructure. In Nigeria, tax revenue has historically faced challenges due to inefficiencies in tax collection, weak enforcement mechanisms, and a narrow tax base. Over the years, the Nigerian government has taken measures to broaden the tax net, improve compliance, and minimise evasion through periodic tax reforms (Akinyosoye et al., 2024). One of the most significant reforms in the country's tax administration has been the adoption of digital tax systems. These digital innovations, including e-filing systems, electronic payment platforms, and automated tax reporting systems, aim to streamline the tax collection process, reduce administrative burdens, and increase transparency (Francis, 2024). According to Muhammed et al. (2023), digital tax reforms, especially in Company Income Tax (CIT) and Value Added Tax (VAT), have shown considerable promise in enhancing tax compliance and revenue generation in Nigeria.

Furthermore, digital tax systems have been linked to reduced tax evasion by improving tracking and enabling real-time monitoring of taxpayer activities (Akinyosoye et al., 2024).

The Nigeria Revenue Service (NRS) has implemented e-tax platforms, including e-registration, e-filing, and e-payment systems, which facilitate faster tax processing and increase taxpayer compliance through simplified, user-friendly interfaces (Adereti et al., 2021).

Despite these efforts, challenges persist, such as inadequate infrastructure, low digital literacy, and resistance to digital change among some taxpayers and tax officials (Oni et al., 2020). These barriers need to be addressed to ensure that the benefits of digital tax administration fully materialise, particularly in regions where digital tax systems are not yet fully adopted or where infrastructure remains underdeveloped.

The significant relationship between digital infrastructure and revenue performance has been confirmed in empirical studies, including Kareem and Olaoye (2025), who found that investments in ICT infrastructure have improved tax collection efficiency and increased internally generated revenue across various states. Similarly, Oladele et al. (2024) showed that corporate taxpayers, especially those exposed to digital tax services like e-filing, exhibit higher compliance rates, further validating the positive effects of digital tax systems. While digital systems have shown promise in increasing revenue generation, questions remain about their full implementation and long-term effectiveness. The digital divide, especially between urban and rural areas, and issues such as cybersecurity risks and data integrity need to be carefully addressed to ensure that tax digitalisation leads to

sustained improvements in revenue collection (Amah & Ijeoma, 2023; Nwachukwu & Ogujiuba, 2020).

Thus, it is necessary to examine how the digitisation of tax systems has affected revenue collection in Nigeria and to explore strategies to overcome existing barriers to full-scale implementation. This study, therefore, aims to investigate the relationship between digital tax systems, including electronic tax filing systems, electronic payment platforms, taxpayer digital registration and identification systems, and automated tax assessment and reporting systems and revenue collection efficiency in Nigeria.

1.2 Statement of Research Problem

Despite the introduction of electronic tax filing systems in Nigeria, revenue collection efficiency has remained inconsistent. Several studies acknowledge that e-filing was designed to simplify tax submission, reduce human interference, and improve compliance; however, empirical findings reveal that challenges such as poor system accessibility, limited taxpayer awareness, and technical failures continue to constrain its effectiveness. For instance, *Electronic Tax Management System and Tax Revenue Collection Efficiency in Selected States in Southwest Nigeria* notes that “the expected efficiency gains from electronic filing systems have not been fully realised due to operational bottlenecks and low user adaptability” (Akinyele & Adebayo, 2025). Similarly, Akinyosoye et al. (2024) observe that although e-filing reduces processing time, its impact on revenue generation

remains uneven across the Nigerian tax system, indicating a gap between policy intent and practical outcomes.

In addition, the adoption of electronic payment platforms has been promoted as a mechanism to enhance transparency, reduce leakages, and improve revenue remittance. While evidence from international contexts supports this assumption, Nigerian-focused studies reveal unresolved issues. The World Bank study on electronic payment technology highlights that digital payments improve compliance when they are widely adopted and effectively monitored (World Bank, 2024).

However, Nigerian studies, such as the Tax Digitalisation and Revenue Performance report, indicate that inconsistent platform integration, transaction failures, and taxpayer distrust in digital payment systems limit the contribution of digital payment systems to sustained revenue efficiency (Fadipe & Ogundele, 2025). This suggests that the mere presence of electronic payment platforms does not automatically translate into improved revenue outcomes, creating an empirical gap that requires further investigation.

Furthermore, taxpayer digital registration and identification systems are central to broadening the tax base and improving taxpayer tracking. Existing literature emphasises that digital registration enhances taxpayer visibility and reduces the incidence of ghost taxpayers. However, studies such as *Digitalisation of Tax Systems and Tax Reforms in Nigeria* indicate that incomplete taxpayer databases, duplicate records, and weak inter-

agency data integration continue to undermine the effectiveness of digital identification systems (Muhammed et al., 2023). Likewise, Kareem and Olaoye (2025) argue that deficiencies in digital taxpayer registration impede accurate assessment and monitoring, thereby weakening revenue-collection efficiency. These findings reveal a gap between the theoretical benefits of digital registration and its practical implementation in Nigeria.

Finally, automated tax assessment and reporting systems were introduced to minimise human discretion, reduce errors, and improve the accuracy of tax liabilities. Although automation is widely regarded as a tool for enhancing efficiency, empirical evidence in Nigeria remains limited and inconclusive. Studies such as *Tax Digitalisation and Revenue Generation System: The Empirical Approach* indicate that automated assessment systems are still constrained by outdated data inputs and weak compliance enforcement mechanisms (Akinyosoye et al., 2024).

In addition, *Tax Administration and Domestic Revenue in the Digital Era* notes that automation without strong institutional capacity may fail to deliver expected efficiency gains (ODI Global, 2024). This reveals a clear research gap regarding the extent to which automated tax assessment and reporting systems improve revenue collection efficiency in the Nigerian context.

In summary, while Nigeria has made notable progress in adopting digital tax systems, the existing literature presents fragmented findings, implementation challenges, and

insufficient variable-specific analysis. There remains a clear gap in comprehensive empirical evidence that jointly and distinctly examines how electronic tax filing systems, electronic payment platforms, taxpayer digital registration and identification systems, and automated tax assessment and reporting systems affect revenue collection efficiency in Nigeria. Addressing this gap forms the core problem that this study seeks to investigate.

1.3 Research Questions

Based on the identified gaps, the following research questions are formulated:

1. What is the effect of electronic tax filing systems on revenue collection efficiency in Nigeria?
2. How do electronic payment platforms influence revenue collection efficiency in Nigeria?
3. What is the impact of taxpayer digital registration and identification systems on revenue collection efficiency in Nigeria?
4. How does the use of automated tax assessment and reporting systems affect revenue collection efficiency in Nigeria?

1.4 Objective of the Study

The main objective of the Study is to examine the effect of digital tax systems on revenue collection efficiency in Nigeria. Specifically, the study aims to:

1. assess the relationship between electronic tax filing systems and revenue collection efficiency in Nigeria;
2. examine the relationship between electronic payment platforms and revenue collection efficiency in Nigeria;
3. evaluate the relationship between taxpayer digital registration and identification systems and revenue collection efficiency in Nigeria; and
4. determine the relationship between automated tax assessment and reporting systems and revenue collection efficiency in Nigeria.

1.5 Research Hypotheses

The following null hypotheses are formulated for this study:

There is no significant relationship between:

H₀₁: electronic tax filing systems and revenue collection efficiency in Nigeria.

H₀₂: electronic payment platforms and revenue collection efficiency in Nigeria.

H₀₃: taxpayer digital registration and identification systems and revenue collection efficiency in Nigeria.

H₀₄: Automated tax assessment and reporting systems and revenue collection efficiency in Nigeria.

1.6 Scope of the Study

This study examines the effect of digital tax systems on revenue collection efficiency in Nigeria. The study focuses specifically on four key components of digital tax systems, namely electronic tax filing systems, electronic payment platforms, taxpayer digital registration and identification systems, and automated tax assessment and reporting systems, as they relate to the efficiency of tax revenue collection in Nigeria.

Geographically, the study covers Nigeria as a whole, without restriction to any particular state or region. This national scope is adopted to provide a comprehensive understanding of the operation and effectiveness of digital tax systems across Nigeria's tax administration structure, accounting for variations in institutional capacity and technological adoption.

Temporally, the study covers the period during which digital tax reforms and electronic tax systems have been implemented and operational in Nigeria, focusing on recent years when digitalisation of tax administration became more pronounced. This period enables the study to capture the practical effects of digital tax systems on revenue-collection efficiency in the Nigerian context.

The scope of the study is limited to issues directly related to tax administration and revenue collection efficiency. Other aspects of public finance, such as government expenditure, public debt management, and fiscal policy formulation, are excluded from the study to maintain focus and ensure alignment with the research objectives.

1.7 Significance of the Study

Persistent revenue collection inefficiencies in Nigeria, despite the increasing adoption of digital tax systems, make it necessary to generate evidence that goes beyond policy assumptions and general claims. This study is significant because it provides empirical insight into how specific components of digital tax systems influence revenue-collection efficiency in the Nigerian context.

First, the study contributes to the existing body of knowledge on digital taxation by disaggregating digital tax systems into electronic tax filing systems, electronic payment platforms, taxpayer digital registration and identification systems, and automated tax assessment and reporting systems. By examining these components separately, the study helps to clarify which aspects of digitalisation contribute most to improving revenue collection efficiency in Nigeria, thereby addressing gaps identified in prior studies that treated digital tax systems as a single broad construct.

Second, the findings of this study are useful to tax authorities and policymakers, particularly the Nigeria Revenue Service (NRS) and relevant government agencies.

Evidence generated by the study can support more informed decisions to strengthen existing digital tax platforms, improve system integration, and prioritise investments in areas of digital tax administration that have the greatest impact on revenue efficiency.

Third, the study is significant for tax practitioners and administrators, as it provides insight into the operational challenges associated with digital tax systems and highlights areas where administrative processes can be improved to enhance compliance, reduce leakage, and improve overall efficiency in revenue collection.

Finally, the study serves as a reference point for future researchers and academics by providing structured empirical evidence on digital tax systems and revenue collection efficiency in Nigeria. It offers a foundation for further studies that may extend the analysis to other fiscal variables or comparative contexts.

1.8 Definition of Terms

Digital Tax Systems: Digital tax systems refer to the application of information and communication technology in tax administration to facilitate electronic registration, filing, payment, assessment, and reporting of taxes.

Revenue Collection Efficiency: Revenue collection efficiency is the extent to which tax authorities can collect due taxes accurately, promptly, and at minimal cost, while reducing revenue leakage and tax evasion.

Electronic Tax Filing Systems: Electronic tax filing systems are online platforms that enable taxpayers to submit tax returns electronically to tax authorities without physical contact or manual documentation.

Electronic Payment Platforms: Electronic payment platforms are digital channels, such as online banking, mobile money, and electronic transfer systems, used to remit tax payments to government accounts.

Taxpayer Digital Registration and Identification Systems: Taxpayer digital registration and identification systems are electronic databases that capture taxpayer information and assign unique identification numbers to facilitate monitoring, compliance, and enforcement.

Automated Tax Assessment and Reporting Systems: Automated tax assessment and reporting systems are digital tools that automatically compute tax liabilities, generate assessments, and produce tax reports using predefined rules and taxpayer data.

Tax Administration: Tax administration refers to the processes and institutions responsible for the assessment, collection, management, and enforcement of taxes within a country.

Tax Compliance: Tax compliance is the extent to which taxpayers comply with tax laws and regulations by registering, filing accurate returns, and paying taxes as and when due.

Tax Evasion: Tax evasion refers to the illegal act of deliberately avoiding tax payment through underreporting of income, falsification of records, or non-registration.

Tax Base: Tax base refers to the total amount of income, transactions, or economic activities subject to taxation within an economy.

Tax Revenue: Tax revenue is the income generated by government from taxes imposed on individuals, businesses, and transactions.

Information and Communication Technology (ICT): ICT refers to digital technologies used to process, store, and transmit information in electronic form.

Nigeria Revenue Service (NRS): Nigeria Revenue Service is the government agency responsible for the assessment, collection, and accounting of federally administered taxes in Nigeria.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter starts with an overview of existing literature on Nigeria's tax administration and how digital tax systems aid revenue collection, before empirically analysing how digital tax reforms, such as e-filing, tax payment systems, and automated tax assessment systems, affect tax compliance and revenue generation. It further analyses the theories relevant to digital tax systems, governance, and tax compliance that help explain the processes digital tax systems simplify. Finally, the chapter presents a theoretical framework that illustrates the relationships among the study's variables.

2.2 Conceptual Review

2.2.1 Revenue Collection Efficiency

Revenue Collection Efficiency measures how effective the tax system is in restricting the use of inefficiencies and leakages. In the public sector, the efficiency of revenue collection is crucial because it provides the government with the financial ability to support public services, government-initiated projects, and infrastructure. An efficient system handles tax evasion, administers the system, and manages the collection of taxes in a manner that increases the government's revenue and the quality of the revenue to the government.

In Nigeria, administrative inefficiencies and the volatility of oil revenue, combined with low tax revenue compliance levels, make revenue collection efficiency concerning. Adefunke (2024) stated that the focus on improving revenue collection in Nigeria should be on addressing revenue collection inefficiencies by introducing innovative digital solutions. The collection of taxes, enhanced transparency, and decreased manual errors from the use of digital technologies (e-filing, automated tax assessments, and digital payment platforms) to tax administration have been widely documented (Oladejo & Akinwunmi, 2025). Digital revenue collection solutions have the potential to improve government revenue by expanding the tax revenue base, as well as assisting with more accurate reporting of revenue and collection processes.

Within the Nigerian tax system, a greater variety of approaches regarding the efficiency of collection processes can be used, especially concerning sustaining revenue collection over time. For instance, efficiency improvements can be administrative, in which internal processes within a tax authority are refined to enhance the accuracy, promptness, and cost-effectiveness of tax collection. One method used in administrative improvement is the automation of the assessment, collection, and enforcement processes of a tax system. Administrative automation reduces the likelihood of fraud and corruption associated with manual processes and, as noted by Oladejo and Akinwunmi (2025), enables tax authorities to increase the number of taxpayers they capture and the collection processes they employ through automation.

One form is efficiency in taxpayer compliance, which is the tax system's capacity to ensure taxpayers report and pay taxes honestly and fully. This is possibly achieved through improved taxpayer education, better guidance on tax obligations, and refined tax processes. Nose et al. (2025) highlighted that optimising taxpayer compliance would enhance the potential of a tax system and that this is most evident when digital mechanisms are utilised to ease tax filing and payment. A system that is easier to navigate encourages taxpayers to comply with their responsibilities, increases system output, and reduces tax administration costs.

A third form is efficiency through technology, which refers to the use of digital tools to enhance tax administration and collection. E-payments, electronic invoices, and data analytics are examples of digital technologies that improve tax collection more quickly and precisely. Nose et al. (2025) state that these technologies increase revenue collection and help identify tax underpayment. E-payment systems are digital payment tools that provide taxpayers with greater flexibility and ease when paying taxes. Automated payment systems also allow tax administrators to track payments in real time and reduce the risk of errors in tax payments and processing.

Nigeria requires efficient revenue collection systems, alongside effective governance in public administration, to achieve fiscal accountability and transparency. Adefunke (2024) explained that efficient revenue collection systems would mean that public administration systems could depend less on oil revenue and allow for improvements in collection systems

and, in turn, in the public administration systems that support social services and infrastructure. In addition, efficient revenue collection systems lead to greater revenue collection and, therefore, greater tax compliance by citizens, as they perceive the collection system to be effective and to improve public administration systems.

Moreover, accountability and transparency in fiscal management is also a critical component in the efficiency continuum of revenue collection systems. A system is transparent when it fosters public trust in the taxation system and in how the funds collected are utilised. Nose et al. (2025) opined that transparency is the public accountability of tax revenue and the articulation of the processes of tax collection, which to a great extent, sustains public trust in taxation and revenue collection as opposed to corruption and inefficiency.

The importance of revenue collection efficiency cannot be overstated in Nigeria's governance. Nigeria can improve its tax system and reduce its dependence on oil revenue by enhancing administrative efficiency, taxpayer compliance, technology use, and fiscal transparency. These initiatives can help Nigeria build a more reliable economic future. The suggested initiatives will improve public confidence in the government and ensure that public funds are utilised for development to enhance the well-being of the populace.

2.2.2 Digital Tax Systems

Digital Tax Systems refer to the implementation of digital technologies in tax administration, including online systems for tax filing, payments, assessments, and reporting. These systems streamline tax processes, improve efficiency, strengthen compliance, and increase transparency in public-sector financial management. Digital tax systems have revolutionised the tax collection process and addressed the challenges faced by both developed and developing economies.

Digital tax systems in public sector organisations modernise tax administration and improve the accuracy and efficiency of revenue collection. Digital tax systems enhance efficiency and accessibility. Rezaei and Jablonsky (2025) have noted that e-filing and automated tax assessments, as digital platforms, enhance the transparency and efficiency of the tax process by reducing human error and increasing operational speed, while making the system less susceptible to corruption. These attributes improve the Nigerian tax system, which has faced low tax compliance and high administrative costs, thereby enhancing tax compliance.

Nigeria is shifting its reliance on oil revenues toward a more sustainable approach to domestic revenue generation through the adoption of digital tax systems. Okunogbe and Santoro (2023) explain that digital technologies such as e-payment systems and electronic invoicing can expedite and simplify the tax-filing process for both individuals and

businesses. Tax e-filing can enable quick submission of tax returns, and tax payment systems can automate processes to ensure on-time collections rather than delayed and costly ones. Broadened tax bases and evolving tax-system technologies result in tax authorities reaching and collecting taxes from those who are qualified to pay them.

The efficiency of revenue collection through digital tax systems affects governance and fiscal sustainability, both of which are of utmost importance in Nigeria. Adefunke (2024) opines that digital tax systems improve compliance and minimise tax collection. A case in point is e-payment platforms. They make payments effortless and maintain a transparent record, making it easier for tax authorities to monitor tax compliance. Taxpayers see how their contributions are being used, which increases trust in the government.

Also, digital tax systems minimise corruption in tax administration systems. Hammayo et al. (2022) argue that in tax digitisation, opportunities for corruption and fraud in tax administration are reduced due to the decline in face-to-face interactions between tax officials and taxpayers. Taxes are automatically assessed and calculated in an unbiased manner. Those who pay taxes are less likely to abuse the system. Digital tax systems improve tax administration systems.

Tax data is sensitive and requires tax systems to employ robust cybersecurity measures to safeguard taxpayers' personal and financial information. Secure digital systems, equipped with encryption and authentication measures, will enhance taxpayers' trust and bolster

confidence that their documents will not be exposed to theft or misuse. Digital tax systems will provide taxpayers with the necessary trust to embrace the formal tax system and pay their taxes.

In Nigeria, where tax collection has faced significant challenges due to low compliance and administrative deficiencies, the introduction of a Digital Tax System will not only enhance the efficiency and effectiveness of the entire tax collection system but also reduce the system's rate of corruption. Digital technologies will thus be a great means of modernising the entire tax system, enhancing revenue collection, reducing corruption, and enabling the government to be more transparent and accountable.

2.2.2.1 Electronic Tax Filing Systems

Electronic tax filing systems enable taxpayers to file tax returns and make tax payments electronically, thereby replacing traditional paper tax filing methods. These systems focus on improving the efficiency and accuracy of tax filing and tax collecting processes and increasing accessibility for taxpayers and tax agencies. By filing taxes electronically, tax authorities and taxpayers can gain administrative cost savings, reduced taxpayer filing errors, and improved tax compliance. Electronic taxpayer filing systems are unique innovations in tax administration that can increase the efficiency of revenue collection.

The efficiency of tax administration can be further improved by public sector organisations incorporating electronic tax filing systems. Bassey et al. (2022) state that digital tax

systems, such as e-filing systems, are resource-efficient and capable of rapidly collecting tax revenues. E-filing systems speed up revenue collection by enabling tax authorities to collect taxes more quickly and reliably. Furthermore, e-filing systems enhance the tax collection process through real-time tax verification, assessments, and payments. As Nose et al. (2025) note, administrative tax systems can reduce the workload of tax administrators by automating routine tasks, allowing them to focus on more complex work, such as tax auditing and enforcement, thereby providing greater value.

The implementation of electronic tax filing in Nigeria's tax system will improve tax compliance and tax revenue collection. Nigeria's tax system has suffered revenue collection challenges as a result of its tax system and poor return processing, as observed by Adefunke (2024). The Nigerian government has the opportunity to simplify administrative tax processes and reduce compliance issues by implementing e-filing systems. With the use of electronic filing systems, the Nigerian government has the opportunity to expand its tax collection to include corporate, value-added, and income taxes, thereby broadening the corporate tax revenue base and the revenue collection system.

There is a strong correlation between e-filing and revenue collection efficiency, which is critical to Nigeria's fiscal health. Enhanced accountability and transparency is one of the many benefits accruing to tax authorities from a digital system, as noted by Okunogbe and Santoro (2023). The digital system provides an audit trail of every interaction, including filing, which minimises tax evasion and fraud. Additionally, tax authorities can monitor

compliance and detect evasion through active compliance systems. This creates a more equitable tax collection system, as authorities can ensure that all taxes are paid.

Additionally, attempting to conceal fraudulent behaviour in tax collection procedures may be circumvented by the electronic tax filing system. Zenodo (2025) states that digital platforms lower the chance of bribery by eliminating the need for direct communication between tax collectors and taxpayers. With the ability to file taxes online, tax administrators can assess liability and collect taxes without manual intervention, improving the system's flexibility and reducing the risk of tax evasion by tax collectors.

The importance of data security in the electronic tax filing system is self-evident. The protection of the sensitive nature of financial data is contingent on the implementation of cybersecurity mechanisms. As noted by Deshi et al. (2025), cybersecurity mechanisms are required to preserve the public's trust in the electronic tax filing system. The protection of taxpayer information is achieved through the Federal Information Security Management Act. The implementation of these mechanisms is directly correlated with the public's trust in the electronic tax filing system and the protection of taxpayers' data.

Nigeria can significantly increase its tax compliance and revenue through electronic tax filing systems. Taxes can be paid with greater transparency and at a reduced cost to tax authorities. With fewer tax administration staff, there are fewer opportunities for corruption, and tax revenue can be used more efficiently and effectively. Modern tax

systems require digital solutions to manage taxpayer data and systems. As such, Nigeria must adopt e-filing in order to ensure its tax system is equitable and effective.

2.2.2.2 Electronic Payment Platforms

Electronic Payment Platforms are digital systems for the electronic movement of money, providing a means for taxpayers to settle tax, fee, and other governmental charge obligations online. In today's tax administration, electronic payment systems are indispensable. They provide convenience, speed, and security to both taxpayers and tax administrators. They streamline tax collection without labour-intensive manual payments, reduce costs, and increase compliance rates. As a result, they are essential to modern tax systems.

Tax compliance is also dependent on the ease and accessibility of payment methods. As Adefunke (2024) noted, the remote payment capabilities of these systems bypass the need to wait in queues and deal with the hassles associated with administrative delays. These systems make the tax payment process more appealing to individuals, increasing compliance. Being able to process tax payments electronically also enables tax authorities to monitor payments in real time, enhancing transparency and discouraging payment avoidance.

Tax administration employs different categories of electronic payments. One such category is the Banking Platforms that allow tax payments through bank transfer, credit, or debit cards. Taxpayers can use internet or mobile banking services to debit taxes directly to the government's accounts. In Nigeria, REMITA serves this purpose by offering payment services to multiple government agencies. Mobile Payment Platforms such as Paystack and Flutterwave also allow taxpayers to make tax payments through mobile apps. These platforms have been important for mobile users to make tax payments, especially for small amounts. They are also helpful for people living in rural or underserved communities where banking services are limited.

Taxpayers and tax authorities are served by Third-Party Payment Processors who aggregate payments of different services. They facilitate tax payments and services enabling taxpayers to make multiple tax payments through a single platform. Kudi is a third-party payment processor that aggregates multiple tax payment systems and makes it easy for users to navigate them. Furthermore, tax payments can be made through Digital Wallets such as M-Pesa and Google Pay, which allow users to pay using stored digital money in the wallets or via linked bank accounts. This also offers taxpayers another digital payment option.

Taxpayers and tax authorities enjoy benefits when payment systems shift from paper to electronic methods. For example, Greater Ease and Flexibility. Taxpayers no longer need to make trips to tax offices or wait hours in line to make payments, and they can complete

transactions anywhere and anytime with their mobile or computer devices. This is especially beneficial for those with tightly scheduled appointments and for those who live in isolated locations. Tax authorities also benefit from Increased Compliance, as Adefunke (2024) stated; electronic payment systems make it easier to comply with tax payment obligations. Compliance is further enhanced when payment systems and tax payment requirements are clear, easy to understand, and easy to navigate.

Additionally, tax authorities enjoy Cost Savings when using electronic payment systems, as these systems collect and manage tax-related documents. The Cost Savings result from the elimination or considerable reduction in the need for or use of paper, documents, and office equipment. The same is true for the Faster Processing of tax payments. Electronic payment systems provide instant payment confirmations and up-to-date tax records for taxpayers, and a fast flow of tax revenue to tax authorities.

Furthermore, by documenting each payment, electronic payment systems improve accountability and transparency. Electronic payments also improve the tracking and accounting of payments made at a given time, thus minimising incidences of fraud and corruption. Another benefit of electronic payment systems is their enhanced security. Compared to payments made in cash or by cheques, electronic payment systems use sophisticated security measures, including authentication and encryption, thereby protecting the government and taxpayers from losses due to fraud or theft. As Deshi et al.

(2025) indicate, despite the numerous risks posed by cybercrime, digital payment systems help ensure the security of sensitive information. (Deshi et al. 2025).

Nigeria is also prioritising the adoption of electronic payment platforms as part of the sweeping transformation of its tax legislation. An example of a tax measure implemented by the Nigerian government is the 2020 Finance Act, which also provides for the streamlining of tax collection and the expansion of the tax base. This also includes the Voluntary Assets and Income Declaration Scheme (VAIDS), which offers tax amnesty and increased transparency for taxpayers. Along with the Ministry of Finance's REMITA and e-Tax systems, payment platforms also make it easier for stakeholders to satisfy tax obligations and support reforms.

Nigeria also seeks to advance its ambition for a self-sustaining economy by reducing its overreliance on oil revenues and diversifying its sources of income. The use of digital payment systems offers a solution for tax evasion and poor tax administration. The tax collection system, as refined by the Stamp Duties, is believed to address tax evasion through several methods, including hiding income and postponing tax settlement. According to Nose et al. (2025), digital payment platforms reduce the likelihood that individuals and businesses hide income. The use of electronic invoicing and electronic receipts also helps prevent tax evasion and supports accurate recording of all transactions.

It is important for Nigeria's tax systems and revenue collection to integrate electronic payment systems. Nigeria's ongoing reforms, such as the Finance Act and VAIDS, require electronic payment systems to support tax collection efficiency and transparency. Nigeria needs to integrate more and better electronic payment systems to support an effective, transparent, and reasonable tax system, and to promote fiscal sustainability and reduce reliance on oil revenue.

2.2.2.3 Taxpayer Digital Registration and Identification Systems

Governments use Taxpayer Digital Registration and Identification Systems to ascertain and digitally register taxpayers, utilising technology to identify and categorically organise them. Such Systems are instrumental in modern tax systems, enabling the digital construction of tax profiles to aid the government in monitoring taxpayers' obligations, the status of their filings, and their tax compliance. The Taxpayer Identification Number (TIN) is the most significant aspect of these systems, as it assigns a unique, permanent identifier to individuals and businesses across tax jurisdictions, thereby enhancing tax compliance, administration, and enforcement. The efficiency of digital registration and identification systems is essential for a tax system to operate with minimal flaws, duplicate tax identification, and to capture all taxpayers who fall within the tax system (CIAT, 2023).

The tax administrators' digital registration systems enhance the functionality of tax administrations by facilitating taxpayer enrolment, linking them to tax obligations, and

managing compliance. Integrating technology into tax collection and compliance (e.g., e-registration, digital identity, unique taxpayer IDs) has a positive impact on tax revenue collection and compliance but requires changes to legislation and the tax administration system (IMF, 2023). Digital systems reduce the burden of manual registration and provide features such as real-time updates, interoperability with other Government systems, and automation of several tax systems. These functionalities reduce the number of steps required by redundant systems and simplify the taxpayer tax administration interface (OECD, 2023).

Digital tax registration, identification, and taxpayer systems rely primarily on two elements: digital registration systems and unique digital identifiers. Digital tax registration portals enable taxpayers to register online with a tax authority, upload required documents, and receive immediate confirmation. Digital portals streamline the process for the taxpayer, reduce administrative costs, and reduce the time required for registration. Unique digital identifiers, such as a TIN, provide tax administration with a consistent identifier used across all processes. In Nigeria, the TIN system interfaces with the National Identification Number (NIN) assigned by the National Identity Management Commission (NIMC) to provide unique identification of persons and entities across government systems and mitigate the problem of multiple registrations (Business Day, 2023).

The advantages of integrated digital registration and ID systems are numerous. For one, they facilitate tax compliance by ensuring each taxpayer is included in the tax authority's database, thereby eliminating the possibility of under registration or non-registration, which are common in manual systems. Operational efficiency and taxpayer service are improved by a functioning TIN system, as it integrates taxpayer data with compliance, filing, and payment functions (World Bank, 2023). Aside from this, integrated systems enhance government agencies' ability to cross-check and validate taxpayer data, thereby improving enforcement and mitigating the risk of fraud. Additionally, digital IDs enhance tax authorities' ability to prosecute tax evasion and target compliance risks by enhancing analytical tools and record-keeping (CIAT, 2023).

While implementing digital ID systems for tax administration, many African countries, including Nigeria, face issues with coverage, inclusiveness, and governance. Most African countries, including Nigeria, are working on digital ID systems intended to aid tax registration and other public services. These systems are meant to create inter-linked systems between National ID and Tax ID to reduce barriers to public service and foster economic growth. Nonetheless, obstacles to more inclusive digital ID systems remain, including infrastructure, legislation, and data privacy concerns (ECDPM, 2023).

Digital systems of registration and identification have proven successful in enhancing tax compliance and revenue performance, provided there are sufficient policies, personnel, and

infrastructure. Simplified tax administration systems (including unique identifiers and e-registration) are more successful when coupled with administrative reforms, taxpayer support, and digital tax administration systems (IMF, 2023).

Digital identification and registration of taxpayers are essential components of contemporary tax administration. With efficient registration and identification, and the seamless integration of identification and tax-related data, tax authorities can simplify tax administration, increase tax compliance, and enhance operational transparency. As shown by the World Bank (2023), developing countries, including Nigeria, must adopt and improve digital registration and identification systems to enhance tax evaluation and collection.

2.2.2.4 Automated Tax Assessment and Reporting Systems

Automated Tax Assessment and Reporting Systems are digital services and tools used by tax agencies to determine, evaluate, and record tax obligations and liabilities through proprietary software, advanced analytics, and rule-based algorithms, rather than via manual processes. These systems are foundational to contemporary tax systems because they enable real-time processing of taxpayer data, minimise calculation errors, enhance uniformity of tax calculation, and improve tax reporting accuracy (OECD, 2023; IMF, 2023). Before now, estimating tax obligations and preparing tax reports required lengthy manual, paper-based processes to compute and record them, which could result in errors.

The process of automation replaces these time-consuming activities and enables large volumes of tax-related work to be handled electronically, enhancing the reliability and efficiency of tax systems (KPMG, 2024).

Automated assessment systems in tax administration within the public sector merge taxpayer information from various electronic tax services, such as e-filing, e-payment, and online registration, to automatically determine tax obligations and create records for tax authorities and taxpayers. This process speeds up and simplifies assessments and helps keep tax assessments uniform, clear, and less discriminatory, reducing disputes and administrative backlogs. Digital integration in tax assessments and reporting has been shown to boost tax compliance and revenue collection by reducing manual processing and enabling more consistent, dynamic adherence to legislation and tax rates (IMF, 2023; OECD, 2023).

Automated systems provide the benefit of processing information as it becomes available. This means that systems that assess taxes immediately process the information that taxpayers submit, including their income, transactions, and financial statements. Tax evaluations are more precise, and tax authorities can produce reports about current taxes. Processing information as it becomes available enables tax authorities to identify and address issues and anomalies in tax reports. Tax authorities can take corrective measures and conduct audits targeting specific issues (Reuters, 2024). Contemporary systems can

identify, through machine learning and intelligent (or smart) data analysis, patterns of noncompliance (or compliance), unlawful acquisition of financial benefits to which one is not entitled (fraud), and erroneous (or mistaken) tax reports. This (or thereby) improves and strengthens the (or also) ability of economic authorities to enforce the tax authorities (Tan et al., 2025).

Automation of reporting is another benefit. Instead of having to prepare tax returns and other compliance reports manually, automated systems prepare standardised reports that can be sent to other government departments, stakeholders, and people in other countries. This encourages transparency because there is an electronic record of all calculations and reports (Reuters, 2024). When automated systems interconnect with other systems that are digital, such as those that manage the registration of taxpayers and those that manage the payment of taxes electronically, automated systems that are designed to assess taxes and to prepare reports that are automated create systems that provide the entire tax compliance history and obligations of a taxpayer that assist in the analysis and monitoring of the entire tax environment (IMF, 2023).

The Nigeria Revenue Service (NRS) is currently determined to develop tax administration solutions so that tax assessments, collections and reporting can be improved and completed automatically and accessed digitally through taxpayers' records, as part of the modernisation of tax administration as is the case in many countries, including Nigeria,

and many countries have introduced, as part of a tax modernisation project, automated tax assessment systems in their tax administration processes (PwC Nigeria, 2025). These reforms focus on achieving a simplified compliance burden, improving the comprehensive assessment of taxes, and ensuring accurate assessment of taxpayers' electronic records, rather than simply relying on electronic records (PwC Nigeria, 2025).

Nevertheless, these systems can be effortless if appropriate digital systems are available and complemented by data and qualified personnel to support and operate them. Frameworks to address concerns such as integration with ageing systems, data privacy and end-user support (OECD, 2023; IMF, 2023). Automated tax-efficient systems are indispensable tools for effective and efficient tax administration in the technology era (IMF, 2023; Thomson Reuters, 2024).

Automated Tax Assessment and Reporting Systems improve contemporary tax administration by accelerating, streamlining, and clarifying tax calculations and reporting. Tax Assessment and Reporting Systems reduce the need for human involvement, enable instantaneous processing, and generate reports in a uniform electronic format, thereby increasing tax compliance and enhancing the government's ability to generate revenue. Automated Reporting and Assessment Systems will certainly be a crucial part of effective, efficient revenue systems in the 21st century as countries, Nigeria among them, deepen their digital tax reforms.

2.3 Empirical Review

2.3.1 Electronic Tax Filing Systems and Revenue Collection Efficiency in Nigeria

Dagunduro et al. (2025) examined the effect of Nigeria's e-tax systems on tax compliance in the informal sector, focusing on small traders and street vendors in the Southwest region. The study employed a survey design to demonstrate that systems such as e-filing, e-payment, and e-compliance have encouraged tax compliance among informal sector operators. The authors argue that greater access to e-tax systems increases the incidence of e-filing and e-payment. These systems helped address the issues of a lack of knowledge and limited accessibility that have hindered tax compliance. The authors therefore stressed that tax compliance among informal sector operators will increase if these systems are made more accessible and operators are educated about them.

Salawu et al., (2025) explored the impact of e-tax filing systems on tax compliance among small and medium enterprises (SMEs) in Lagos State. The study applied a descriptive survey design and utilised ordinal logistic regression to represent compliance of 398 SMEs. The study findings established that tax compliance among SMEs regarding e-filing systems was a product of favourable perceptions of system performance, ease of use, and awareness of e-tax filing. The authors concluded that having people file their taxes online improves compliance and suggested that enhancing user experience and resolving some technical issues could further improve compliance.

The impact of Nigeria's e-tax revenue collection system on Nigeria's economic growth was studied by Owoidoho et al. (2025). To conduct this study, an ex-post facto research design was used, and data were collected from two time periods: prior to and after the implementation of the e-tax system (2008-2014 and 2016-2022). No significant changes were observed in Nigeria's economic development (GDP) following the implementation of e-tax systems, including the Corporate Income Tax (CIT), Value Added Tax (VAT), Petroleum Profit Tax (PPT), and Customs and Excise Duties (CED). Even though the systems provided Nigeria's government with better administration, the authors concluded that ensuring economic growth was of little significance. The Nigerian Government recommended enhancing the electronic collection of taxes as the focus of public education and collaboration efforts.

Enerson et al. (2022) assessed the impact of electronic tax management systems on the efficiency of tax revenue collection in some states of Southwest Nigeria, using a total enumeration sampling technique and analysing data from 2,670 participants. The study concluded that mobile payment systems, internet payment systems, and electronic billing machines strengthened tax compliance and revenue collection strategies. Tax authorities can motivate taxpayers to sustain compliance by giving incentives to voluntarily compliant taxpayers. Overall efficiency in tax collection will also improve with further development of these systems.

Akpubi and Igbekoyi (2019) examined the levels of electronic tax awareness and tax compliance in Lagos State, specifically within the small and medium enterprises (SMEs) sector. In their research, they used a survey method to demonstrate that tax compliance, in this case, was a function of awareness of electronic tax systems. They noted that while users' low level of technical expertise is a problem, it has the potential to encourage users to keep their obligations current. The authors suggested that tax administrators invest in training on the electronic tax systems to enhance users' efficiency.

2.3.2 Electronic Payment Platforms and Revenue Collection Efficiency in Nigeria

Nwankwo et al. (2022) studied cashless payment systems such as ATMs, mobile banking, and web transfers, and their impact on tax revenue generation in Nigeria. The researchers used secondary data from the Federal Inland Revenue Service (FIRS) and the National Bureau of Statistics (NBS) from the years 2013 to 2021. The researchers found that payment revenue from ATMs, mobile banking, and web transfers positively affected tax revenue. In contrast, revenue from POS systems was negligible and had no impact on tax revenue. The researchers found that the implementation of electronic payment systems in Nigeria has had a positive impact on tax revenue, and that the system and the public's perception of it would benefit from advanced fraud prevention and improved internet security.

Mohammed (2020) studied the impact of cashless payment systems on Nigeria's economic growth. The specific payment systems studied were ATMs, mobile banking, and web

transfers. In this research, mobile banking transaction data showed a negative relationship with Nigeria's Gross Domestic Product (GDP). In contrast, ATM and internet banking transaction data showed a positive relationship with Nigeria's economic growth. To maximise the utilisation of electronic payment systems and enhance Nigeria's economic growth, the researcher found that investment in economic growth and the optimisation of electronic cash payment systems were necessary.

Mohammed (2025) also examines the effects of Nigeria's electronic tax systems on tax revenue generation for the years 2010-2023. The study employed OLS regression and compared pre and post-digitalisation periods. The study found that revenue from Company Income Tax (CIT) and Value Added Tax (VAT) increased following the introduction of digital tax systems in 2017. The study concluded that, in Nigeria, the positive impact of revenue generation from the digitalisation of tax systems is promising. However, the authors stress that improvements are needed in taxpayer participation and in the security of the systems used.

In the study of E-taxation systems in Nigeria, the study of South West Nigeria found that electronic tax management systems (Enerson et al., 2022) improved tax revenue management systems. The study utilised a survey method and found that electronic payment systems, bounce-check systems, and billing systems improved tax compliance. In the analysis of tax revenue generation, there was a positive impact of the revenue-

generation systems, with mobile payment systems having the greatest impact. The authors stated that tax authorities should encourage taxpayers to maintain compliance.

Ofurum et al. (2018) analyse E-taxation systems in Nigeria, including economic growth and revenue, the value of taxation, and the value of federally collected revenue relative to the tax-to-GDP ratio. Based on data from their study, they used a paired-samples t-test and regression analysis. They found that the implementation of e-taxation, although positive, did not affect the rate of change in the tax-to-GDP ratio. As a remedy, they suggested that targeted public awareness campaigns be conducted in order to increase the use of digital tax systems in Nigeria.

2.3.3 Taxpayer Digital Registration and Identification Systems and Revenue Collection Efficiency in Nigeria

Ibilbor et al. (2025) evaluated the impact of Nigeria's Federal Inland Revenue Service (FIRS) digital tax reform and the effect on administrative efficiency of tax collection. This analysis spans the years 2015 to 2023 and employs a quantitative research approach using secondary data obtained from FIRS reports. They argue that FIRS administrative efficiency was positively affected by the digital reform and the Integrated Tax Administration System (ITAS). However, issues hindered the integration of digital tax reform, such as limited digital literacy and inadequate digital access. The authors stated that although digital tax reform improved the administrative efficiency of tax collection, there were still factors such as poor internet access and a lack of taxpayer understanding. The authors advocate

for improvements in digital infrastructure and public education on the need to use digital tax reform to enhance revenue collection.

Owoidoho et al. (2025) reviewed the impact and relationship between Nigeria's tax revenue collection via electronic means and economic growth between 2008 and 2022; as such, a comparative analysis before and after the implementation of the electronic tax collection system was undertaken. In this context, secondary data were obtained from the Federal Inland Revenue Service and the Central Bank of Nigeria, and trend analysis was done using regression. The findings showed that e-filing and e-payment platforms enhanced the collection and management of tax revenue, but their impact on the economy was not substantial. For instance, the findings showed that the use of tax technologies resulted in little to no change in the tax-to-GDP ratio. This led to the conclusion that, in light of tax technology, other reforms, such as streamlining tax structures and sensitising the tax populace, are also essential.

Enerson et al. (2022) examined the impact of electronic tax management systems on tax revenue collection in some states in Southwest Nigeria. They used a survey research method and distributed 2,670 questionnaires to tax officials and taxpayers, of which 2,199 were retrieved and considered valid. The findings showed that electronic tax management systems (mobile payment systems and electronic billing machines) enhanced the efficiency of tax revenue collection. Consequently, the authors conducted a multiple regression analysis and stated that tax compliance, perceived ease of use of the electronic systems,

and active internet and mobile payment systems were interrelated. The authors recommended that tax authorities reward voluntary tax compliance to improve it further.

Ajape et al. (2017) examined the impact of electronic tax systems on the efficiency of tax administration and revenue generation in Lagos State. The authors employed a survey research design and collected data through structured questionnaires from 300 respondents. The research results suggested that the implementation of the electronic tax system, especially the online tax filing and payment system, is a major contributor to tax administration efficiency. The system also contributed to a reduction in tax processing duration, a reduction in tax payment processing errors, and expansion of tax payment accessibility to taxpayers. Akande et al. (2017) suggested that Lagos State should further enhance the digital literacy campaign for taxpayers and the user experience of electronic tax systems to enhance tax compliance and revenue generation.

In Akande et al. (2020), the researchers examined revenue generation in Nigeria, using the Federal Inland Revenue Service (FIRS) as a case study from 2010 to 2018, and assessed how electronic tax payment systems impacted it. The authors employed secondary data and time-series methods to analyse trends at the Federal Inland Revenue Service (FIRS). The results of the research revealed that the efficiency of revenue collection improved with the introduction of the e-payment system for tax payments, including payments through REMITA, and that processing time decreased.

However, the researchers noted problems, including issues with payment systems and a lack of awareness of tax obligations among individuals. Although the authors acknowledged the positive influence of electronic tax payment systems on revenue, they maintained that further work to improve the systems' ease of use and reliability will be necessary to broaden their use and improve revenue results.

2.3.4 Automated Tax Assessment and Reporting Systems and Revenue Collection Efficiency in Nigeria

Hassan et al. (2024) analysed how automation of tax administration in Nigeria affects revenue collection. Using secondary data from the Federal Inland Revenue Service (FIRS), the study showed how automation assists the tax filing, payment, and reporting processes. The study argues that automation tools such as ITAS (Integrated Tax Administration System) and U-TIN (Unique Tax Identification Number) greatly improve revenue collection. The study, however, argues that funding and poor digital literacy continue to affect revenue collection adversely. The study recommends that continued investment in ICT infrastructure and taxpayer education is necessary for Nigeria to maximise the benefits of tax automation.

Adefulu et al. (2024) explored tax digitalisation and its effects on revenue collection through the lens of the Federal Inland Revenue Service (FIRS). The authors utilised a survey method to collect data from tax practitioners in Abuja. The study found a strong positive correlation between revenue collection efficiency and tax revenue digitalisation

(e.g., electronic tax filing and electronic tax reporting). The study found that online tax payment and automated tax reporting reduced tax evasion. Conversely, the study found a small group of taxpayers who resisted the digital tax reporting system. The study's findings suggested that using e-filing systems for tax reporting would help improve tax compliance.

Ajibade (2024) examined the effects of automated tax systems on the operational efficiency of tax collection in the southwestern states of Nigeria. Based on surveys of tax officials and tax revenue data, the study showed that automating tax revenue collection through integrated tax databases improved operational efficiency by reducing delays in the tax assessment process. Accessible systems. On the other hand, the study showed that the perennial problem of power outages and unreliable internet access in rural areas has impeded the full adoption of automated revenue collection systems. The study proposed that the tax authorities' system utilisation and, as a result, the operational efficiency of tax revenue collection could be improved by investing in infrastructure, and it also suggested the necessity of ongoing education for tax officials.

Obasi et al. (2025) evaluated the role of digital innovations in the efficient generation of VAT revenue in Nigeria. The authors surveyed tax administrators and assessed the effectiveness of automation in areas such as the Integrated Tax Administration System (ITAS) and electronic payment systems. Their regression analysis indicated that digital innovations positively contribute to VAT collection. However, it was also evident that while automation improved tax reporting and payment accuracy, issues of tax evasion

persisted. The authors advocated for greater automation, combined with more sophisticated data integration between tax systems and financial institutions, to improve compliance and minimise revenue leakage.

Okunowo (2025) analysed the impact of the Federal Inland Revenue Service (FIRS) and tax automation on tax collection and administration in Nigeria. Tax automation, tax filing, tax e-payment systems, and tax electronic reporting systems were all found to have enhanced the rate and precision of tax collection. Improvements to tax filing and electronic reporting systems aided the automation of e-payment systems. Despite improvements in tax filing and e-payment systems, inadequate internet infrastructure and insufficient taxpayer education contributed to the lack of automation in tax reporting systems. The author believes that Nigeria's tax revenue collection system will improve with the provision of better, more advanced tax information systems, particularly in rural areas.

2.4 Review of theories

2.4.1 Technology Acceptance Model

The model offers insights into how individuals and organisations assess and adopt emerging technologies (e.g., electronic tax systems). TAM focuses on the perceived ease of use (PEU) and perceived usefulness (PU) of a technology, which are both determinants of the technology's adoption. TAM theorises that, for tax systems, the ease of a system helps motivate the taxpayer, and the system's usefulness in fulfilling a taxpayer's obligation encourages the taxpayer to adopt and use it regularly. Thus, TAM helps understand the

degree of adoption of Electronic Tax Filing Systems and Electronic Payment Platforms in Nigeria. The usability of tax systems, especially in Nigeria, has been reported to influence tax compliance in several studies (Enerson et al., 2022; Akande et al., 2020). Hence, the perceived user-friendliness and efficiency of a digital tax platform will likely boost tax compliance.

2.4.2 Innovation Diffusion Theory

Of the numerous theories available to track the spread of innovation, the Innovation Diffusion Theory (IDT), first presented by Rogers (1995), offers the most detail. It outlines factors that influence the adoption of innovation, such as relative advantage, compatibility, complexity, trialability, and observability. Considering digital tax systems, the IDT would evaluate how taxpayer acceptance of automated tax assessment and registration systems compares with other systems to assess the perceived usefulness of each automated tool. Systems like REMITA and ITAS adopted by Nigeria exemplify the digital innovation IDT process and the early stage of success with specific groups of taxpayers (for example, businesses), while the IDT states that factors such as complexity, inadequate infrastructure, and systemic issues in the tax systems can limit the full adoption and diffusion of innovations.

2.4.3 Agency Theory

Jensen and Meckling (1976) developed Agency Theory, which analyses the relationship of the principal (in this example, the government) and the agents (the taxpayers or the tax

authorities), and the loss of efficiency due to information asymmetry. Regarding tax administration, Agency Theory would argue that digital tax systems reduce agency costs stemming from information asymmetry between tax authorities and taxpayers. Through Automated Tax Assessment Systems, tax authorities' roles are further streamlined by automating tax assessment and reporting, thereby reducing manipulation and errors in the tax filing process. Digital systems such as the Electronic Tax Management System and Taxpayer Identification Systems enhance monitoring and reporting of tax collection, improving the transparency and accountability of the tax collection process. Agency Theory would add that tax authorities, by using the aforementioned systems, increase revenue collection and the efficiency of that collection, as well as minimise opportunities to evade taxes.

2.4.4 Public Choice Theory

Public Choice Theory was developed by Buchanan and Tullock (1962). It uses economic reasoning to analyse political choices and the roles of public administrators and taxpayers. Public Choice Theory holds that individuals act in their own rational self-interest, which may conflict with the interests of the community. In tax administration, the theory holds that taxpayers are likely to avoid paying taxes or reduce their tax obligations, especially in environments where tax enforcement is not strictly enforced. Digital tax administration, such as electronic filing and tax payment systems, addresses these challenges by ensuring transparency, automating tax payments, and making tax payments auditable, which makes

tax evasion difficult. Public Choice Theory justifies the need for Automated Tax Assessment and Reporting Systems, as they reduce human errors, reduce the chances of bribery and/or corruption, and improve compliance with tax obligations.

2.4.5 Theory of Planned Behaviour

With reference to Ajzen (1991), the Theory of Planned Behaviour (TPB) states that an individual's behaviour can be predicted by considering their attitudes toward the behaviour, the subjective norms surrounding it, and their perceived behavioural control. When it comes to tax compliance, the TPB theory will help in understanding the impact of personal beliefs, social pressure, and the perceived difficulty of the tax obligation on taxpayer behaviour. The TPB applies to the use of digital tax systems in Nigeria, as it helps explain the effects of these systems on taxpayers' attitudes and perceptions. TPB states that if taxpayers perceive compliance with taxation as easy (perceived ease of use) and believe that digital tax systems are effective in maintaining equity and reducing tax fraud, they will be compliant (Akpabi & Igbekoyi, 2019). This means that the TPB focuses on the usefulness and control of digital systems' ease of use to enhance tax compliance and improve tax collection.

2.4.6 Institutional Theory

The focus of Institutional Theory is on the function of institutions (i.e. laws, regulations, organisations) in influencing behaviour. From the perspective of tax administration, the theory of institutions posits that tax systems and processes, including the adoption of digital

tax systems, are shaped by the institutional ecosystem, including the legal system, organisational structures, and socio-economic phenomena. Therefore, the adoption of digital mechanisms, including Taxpayer Digital Registration and Identification Systems, is a technical matter but also a result of broader institutional phenomena, such as government policy, legislation, and public-sector reform (Tarmidi et al., 2020). An example of Institutional Theory is the sluggish adoption of digital tax systems by countries like Nigeria. The theory posits that the absence of a legal framework, the lack of political will, and other institutional constraints such as change-averse tax authorities undermine the adoption of electronic tax system reforms.

2.5 Theoretical Framework

This study is anchored in the Technology Acceptance Model (TAM) to examine how taxpayers' perceptions of digital systems influence their adoption and use. The four independent variables in question will be analysed through the lens of TAM, which encompasses electronic filing systems, electronic payment systems, taxpayer digital registration and identification systems, and automated tax assessment and reporting systems. From the model, it will be constructed how PEU and PU will determine the adoption and use of digital tax systems and how they will be effective in increasing revenue collection.

Electronic Tax Filing Systems (e-filing) enable the online submission of tax returns, enhancing speed and efficiency compared with traditional paper submissions. The

Technology Acceptance Model (TAM) posits that the adoption of e-filing systems for tax reporting is centred on the system's perceived ease of use (PEU) and perceived usefulness (PU). Filing systems, such as e-filing systems, and their perceived ease of use (PEU) streamline the reporting cycle, enhance tax compliance, reduce tax evasion, and simplify tax collection. Implementing the TAM framework helps conceptualise the design and functionality of e-filing systems, as well as their impact on the efficiency of tax revenue collection in Nigeria.

Taxpayers can conveniently pay taxes online using electronic payment systems (e-payment systems), including mobile payments, online banking, and payment processors such as Paystack and Flutterwave. According to TAM, if taxpayers perceive electronic payment systems as positive (PEU) and beneficial (PU) to them, the likelihood that they will adopt the systems increases, thereby increasing tax compliance, as the conventional method of tax payment becomes less tedious. The convenience and simplicity of electronic payment systems reduce the restrictions associated with tax payments and shift the focus away from time-related stressors and accessibility challenges often seen with traditional payment systems.

The Taxpayer Identification Number (TIN) and other Taxpayer Digital Registration and Identification Systems are essential components that simplify the registration process and confirm the identity of every taxpayer. TAM helps us understand that a simple registration process (PEU) and a unique ID (PU) significantly drive system adoption and use. Taxpayer

compliance improves when they find the registration process simple and useful for avoiding tax evasion. Digital taxpayer registration systems allow tax authorities to maintain precise records and streamline tax collection by identifying the correct taxpayers and eliminating duplicates. This enhances tax revenue collection efficiency.

Automated Tax Assessment and Reporting Systems have been created to streamline human tax assessment, calculation, and reporting and to avoid human error. The Technology Acceptance Model (TAM) states that the perceived ease of use and perceived usefulness of these systems will determine their adoption and use by tax authorities and taxpayers. If tax officials and taxpayers see these systems as effective at automating tax calculations, reducing errors, and ensuring timely tax reporting, they will be more inclined to adopt them, thereby enhancing tax compliance. These systems, by automating tax assessment, reduce administrative tasks, increase tax collection efficiency, and decrease errors and delays.

This study will use TAM to assess the impact of the four independent variables on revenue collection efficiency to answer how the usability and perceived benefits of digital tax tools increase tax compliance and efficiency. The tax collection efficiency will be influenced by the users of tax systems in Nigeria (that is, digital registration, e-payment, e-filing, and automated assessments) and will be determined by the systems' perceived ease of use and perceived usefulness.

Schematic Representation of the Model

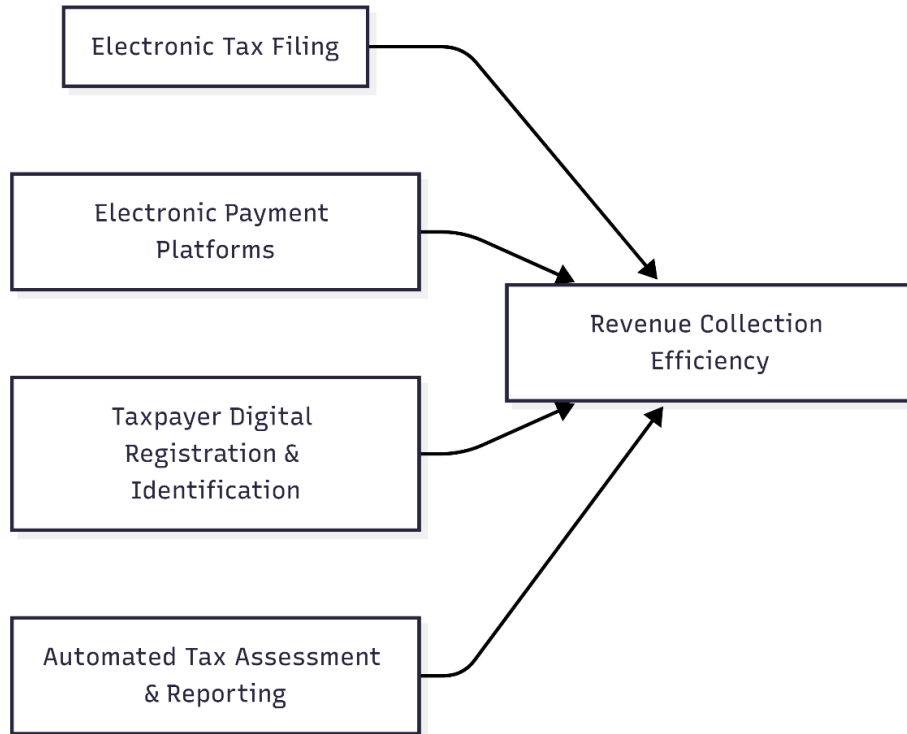


Figure 1: Schematic representation of the model developed by the researcher, adapted from Technology Acceptance Model (Davis, 1989)

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter presents the methodology adopted in achieving the objectives of the study as stated in Chapter One. It describes the research design, the study population and sample, data sources, model specification, variable measurement, and the methods used for data analysis.

3.2 Research Design

This study adopts a qualitative research design to explore how digital tax systems influence revenue collection efficiency in Nigeria. A qualitative approach is appropriate because it enables an in-depth understanding of the experiences, perceptions, and institutional realities surrounding the implementation and use of digital tax platforms within the Nigeria Revenue Service (NRS) and among taxpayers.

The qualitative design allows the researcher to examine how electronic tax filing systems, electronic payment platforms, taxpayer digital registration and identification systems, and automated tax assessment and reporting systems operate in practice and how stakeholders perceive their effectiveness in improving the efficiency of revenue collection.

To facilitate data collection, the study utilises a structured questionnaire containing open-ended questions. The questionnaire was administered to selected tax officials of the Nigeria Revenue Service (NRS) and experienced taxpayers who actively use digital tax platforms. The structured format ensures consistency in data collection, while the open-ended nature of the questions allows respondents to provide detailed explanations of their experiences and insights.

By employing qualitative methods, the study seeks to uncover the practical mechanisms by which digital tax systems enhance administrative efficiency, reduce revenue leakage, improve compliance monitoring, and strengthen transparency within Nigeria's tax administration.

3.3 Population

The population of this study consists of all key stakeholders involved in the administration and utilisation of digital tax systems in Nigeria, and thus is infinite. Specifically, the population includes officials of the Nigeria Revenue Service (NRS) who are directly engaged in digital tax operations, electronic filing systems, electronic payment processing, taxpayer registration and identification systems, and automated tax assessment and reporting processes.

The study also includes selected taxpayers who actively use digital tax platforms to file tax returns, make electronic payments, and register for taxpayer identification numbers (TINs).

These individuals provide practical insights into the effectiveness, challenges, and operational realities of digital tax systems in Nigeria.

Furthermore, the population includes ICT personnel and administrative staff within the NRS who are responsible for maintaining and managing the digital tax infrastructure. Their inclusion is essential to understanding the technical and institutional factors that influence the efficiency of revenue collection.

The study focuses on these categories of respondents because they are directly involved in the implementation, management, and utilisation of digital tax systems and are therefore best positioned to provide informed perspectives on how these systems influence revenue collection efficiency in Nigeria.

3.4 Sample Size Determination and Sampling

The required sample size was derived using Cochran's (1977) formula for infinite populations:

$$n_0 = \frac{(Z^2 \times p \times q)}{e^2}$$

Where:

$Z = 1.96$ (for 95% confidence level)

$p = 0.5$ (assumed proportion)

$q = 1 - p = 0.5$

$e = 0.05$ (margin of error)

$$n_0 = \frac{(1.96^2 \times 0.5 \times 0.5)}{0.05^2}$$

= 384 respondents.

Thus, the computed sample size is 384 respondents.

3.5 Source of Data

Primary data were collected using a structured questionnaire with closed-ended questions. The questionnaire was administered through both online platforms (Google Forms) and physical paper copies. This combined approach enhanced accessibility and encouraged wider participation among respondents.

The respondents comprised officials of the Nigeria Revenue Service (NRS) involved in digital tax administration, including personnel responsible for electronic tax filing systems, electronic payment platforms, taxpayer digital registration and identification systems, and automated tax assessment and reporting systems. In addition, selected taxpayers who actively utilise digital tax platforms were included to provide user-based perspectives on the efficiency and functionality of these systems.

The use of both online and physical distribution methods ensured broader coverage and improved response rates, while allowing participants to provide detailed insights into how digital tax systems influence revenue collection efficiency in Nigeria.

3.6 Research Instruments

The primary instrument for data collection in this study was a structured questionnaire divided into six sections. The sections were designed to capture respondents' perceptions regarding digital tax systems and revenue collection efficiency in Nigeria. The sections were structured as follows:

Section A: Demographic Information

Section B: Perception of Revenue Collection Efficiency

Section C: Perception of Electronic Tax Filing Systems

Section D: Perception of Electronic Payment Platforms

Section E: Perception of Taxpayer Digital Registration and Identification Systems

Section F: Perception of Automated Tax Assessment and Reporting Systems

Section B measured respondents' perceptions of revenue collection efficiency, including improvements in the timeliness of tax collection, reductions in revenue leakage, cost-effectiveness of tax administration, enhancements in compliance monitoring, and overall efficiency in revenue generation.

Sections C to F examined respondents' perceptions of the effectiveness, usability, accessibility, transparency, reliability, and operational performance of the various components of digital tax systems.

Each item in the questionnaire was measured using a 5-point Likert scale, where:

1 = Strongly Disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly Agree

The use of the Likert scale enabled the quantification of respondents' perceptions and facilitated statistical analysis of the relationship between digital tax systems and revenue collection efficiency in Nigeria.

3.7 Validity and Reliability Test

To ensure the quality and consistency of the data collection instrument, both validity and reliability tests were conducted.

The validity of the questionnaire was established through expert evaluation. Professionals with expertise in taxation, public finance, digital tax administration, and research methodology reviewed the questionnaire to verify that the items effectively measured the intended constructs, such as revenue collection efficiency, electronic tax filing systems,

electronic payment platforms, taxpayer digital registration and identification systems, and automated tax assessment and reporting systems.

For reliability, the instrument's internal consistency was assessed using Cronbach's Alpha, a widely recognised measure. A value of 0.7 or higher was considered acceptable. This reliability coefficient was calculated during the pilot study, confirming that the items within each section of the questionnaire consistently measured the intended constructs related to digital tax systems and revenue collection efficiency.

3.8 Model Specification

The model for this study is specified as follows:

Functional Form of the Model:

$$(i) \\ RCE = f(ETFS, EPP, TDRIS, ATARS)$$

The model can be expressed econometrically as:

$$(ii) \\ RCE_t = \beta_0 + \beta_1 ETFS_t + \beta_2 EPP_t + \beta_3 TDRIS_t + \beta_4 ATARS_t + \varepsilon_t$$

Where:

RCE_t = Revenue Collection Efficiency at time t

$ETFS_t$ = Electronic Tax Filing Systems at time t

EPP_t = Electronic Payment Platforms at time t

$TDRIS_t$ = Taxpayer Digital Registration and Identification Systems at time t

$ATARS_t$ = Automated Tax Assessment and Reporting Systems at time t

β_0 = Intercept

$\beta_1, \beta_2, \beta_3, \beta_4$ = Coefficients of the independent variables

ε_t = Error term

t = Time index

A’priori Expectation:

$\beta_1 > 0, \beta_2 > 0, \beta_3 > 0, \beta_4 > 0$

This implies that Electronic Tax Filing Systems, Electronic Payment Platforms, Taxpayer Digital Registration and Identification Systems, and Automated Tax Assessment and Reporting Systems are expected to positively influence Revenue Collection Efficiency in Nigeria.

3.9 Data analysis methods

Given that this study adopts a qualitative approach, data were analysed using Ordinary Least Squares (OLS) regression to examine the linear relationships between the variables. The analysis began with descriptive statistics, including means, standard deviations, and ranges (minimum and maximum values) for each variable. These measures provided an overview of the data distribution and variability.

The OLS regression technique was employed to estimate the relationship between the dependent variable, Revenue Collection Efficiency (RCE), and the independent variables: Electronic Tax Filing Systems (ETFS), Electronic Payment Platforms (EPP), Taxpayer

Digital Registration and Identification Systems (TDRIS), and Automated Tax Assessment and Reporting Systems (ATARS).

The formulated null hypotheses (H_{01} – H_{04}) were tested using the regression results. The statistical significance of each independent variable was evaluated using the t-statistics and corresponding probability (p-values). A 5% significance level ($\alpha = 0.05$) was adopted as the decision rule. The null hypothesis was rejected if the p-value was less than 0.05, indicating a statistically significant relationship between the variable and revenue collection efficiency. Conversely, the null hypothesis was not rejected if the p-value was greater than 0.05.

To ensure the robustness and reliability of the regression results, several diagnostic tests were conducted. Autocorrelation in the residuals was assessed using the Durbin-Watson statistic, which detects serial correlation in the error terms. The Variance Inflation Factor (VIF) was used to test for multicollinearity among the independent variables, ensuring that no independent variable was highly correlated with another in a way that could distort the regression estimates. Finally, heteroscedasticity (non-constant variance of residuals) was tested using the Breusch-Pagan test to verify compliance with the assumptions of the OLS regression model.

3.10 Measurement of Variables

This study used a structured questionnaire to collect data on key variables: Revenue Collection Efficiency (RCE), Electronic Tax Filing Systems (ETFS), Electronic Payment Platforms (EPP), Taxpayer Digital Registration and Identification Systems (TDRIS), and Automated Tax Assessment and Reporting Systems (ATARS) in Nigeria. All variables were measured using Likert-scale items, allowing quantification of respondents' perceptions. Responses ranged from 1 = Strongly Disagree to 5 = Strongly Agree, providing a clear framework for analysing participants' views on the influence of digital tax systems on the efficiency of revenue collection.

S/N	Variable	Acronym	Measurement Scale	Source	A'priori expectation
1	Revenue Collection Efficiency (Dependent Variable)	RCE	Likert 1–5	OECD (2023); IMF (2023)	Nil
2	Electronic Tax Filing Systems	ETFS	Likert 6–10	Davis (1989); Nose & Santoro (2023)	+ve
3	Electronic Payment Platforms	EPP	Likert 11–15	Okunogbe & Santoro (2023); IMF (2023)	+ve

4	Taxpayer Digital Registration and Identification Systems	TDRIS	Likert 16–20	OECD (2023); World Bank (2023)	+ve
5	Automated Tax Assessment and Reporting Systems	ATARS	Likert 21–25	IMF (2023); OECD (2023)	+ve

Source: Researcher's compilation, 2026

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter presents and interprets the results derived from the various variables utilised in this study. The objective is to provide valuable insights that can inform decisions and influence policy formulation. The chapter begins with a presentation of descriptive statistics, followed by tests of normality, correlation analysis, and diagnostic checks. These include the Breusch-Pagan-Godfrey Test for heteroscedasticity, the Breusch-Godfrey Test for serial correlation, the Ramsey RESET test, and the regression results.

4.2 Descriptive Statistics

Descriptive statistics provide an overview of the basic features of a dataset, offering a concise summary of the variables under study. This includes measures of central tendency (mean, median, and mode) and measures of dispersion (such as standard deviation, variance, minimum, and maximum values). Additionally, statistical measures like skewness and kurtosis are used to describe the shape and distribution of the data. The table below outlines the summary statistics for the study's variables:

DESCRIPTIVE ANALYSIS

Table 1: Results of the Descriptive Analysis of the Regression Variables

	RCE	ETFS	EPP	TDRIS	ATARS
Mean	2.533577	2.580449	2.565096	2.559111	2.575445
Median	2.564949	2.564949	2.484907	2.484907	2.564949
Maximum	3.091042	3.135494	3.135494	3.178054	3.178054
Minimum	1.386294	1.609438	1.945910	1.609438	1.609438
Std. Dev.	0.199483	0.239345	0.232499	0.257450	0.242330
Skewness	-0.426015	0.030033	0.309377	0.378720	-0.040311
Kurtosis	5.994656	3.623362	2.924594	3.352483	3.717067
Jarque-Bera	154.6988	6.258669	6.200480	11.13827	8.309265
Probability	0.000000	0.043747	0.045038	0.003814	0.015692
Sum	970.3599	988.3119	982.4319	980.1395	986.3955
Sum Sq. Dev.	15.20108	21.88318	20.64934	25.31910	22.43253
Observations	383	383	383	383	383

Source: Eviews 10 (2026)

Table 1 presents the descriptive statistics of Revenue Collection Efficiency (RCE), Electronic Tax Filing Systems (ETFS), Electronic Payment Platforms (EPP), Taxpayer Digital Registration and Identification Systems (TDRIS), and Automated Tax Assessment and Reporting Systems (ATARS). The result shows that the mean values of RCE, ETFS, EPP, TDRIS, and ATARS are 2.533577, 2.580449, 2.565096, 2.559111, and 2.575445, respectively. This indicates that, on average, the variables remained relatively close over

the study period, suggesting moderate consistency in the data distribution across the sampled observations.

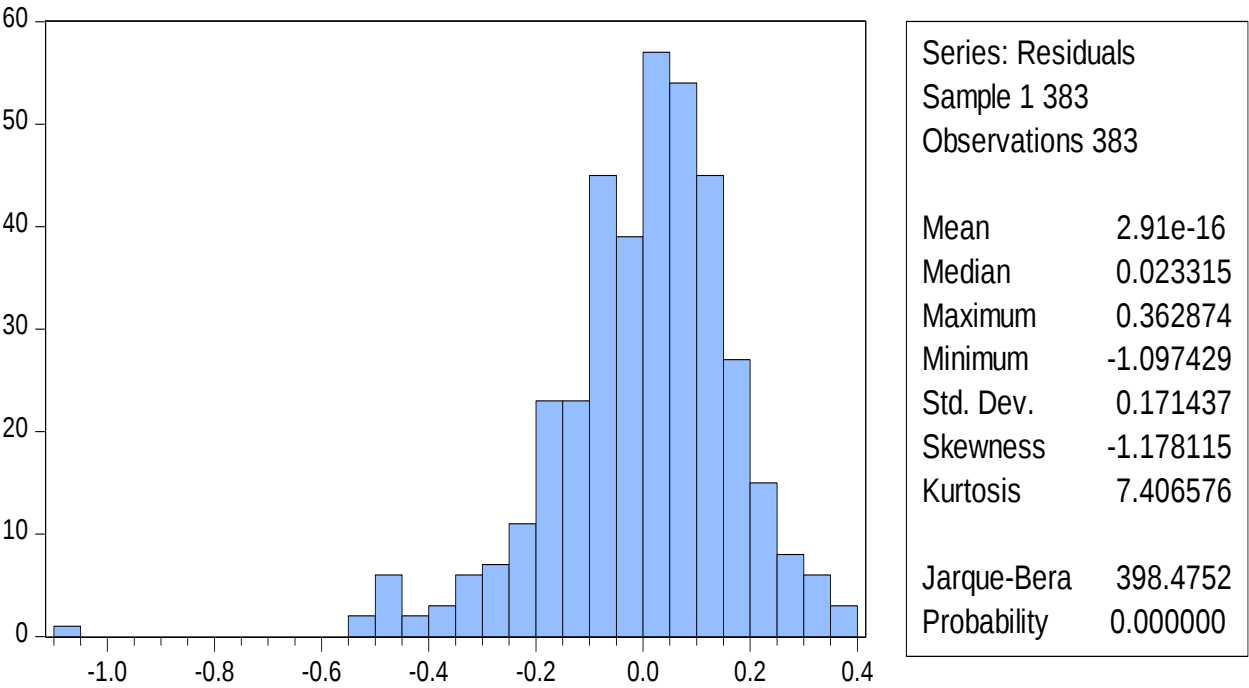
The median values of 2.564949, 2.564949, 2.484907, 2.484907, and 2.564949 for RCE, ETFS, EPP, TDRIS, and ATARS, respectively, represent the middle values of the distributions. The closeness between the mean and median values implies that the variables are fairly distributed with limited extreme variations. The maximum values of 3.091042, 3.135494, 3.135494, 3.178054, and 3.178054 indicate the highest observations recorded for the variables, while the minimum values of 1.386294, 1.609438, 1.945910, 1.609438, and 1.609438 show the lowest observations recorded during the study period.

The standard deviation values of 0.199483, 0.239345, 0.232499, 0.257450, and 0.242330 for RCE, ETFS, EPP, TDRIS, and ATARS, respectively, indicate the extent to which these variables deviate from their respective means. The result reveals that TDRIS has the highest dispersion from its mean, suggesting greater variability in the adoption and implementation of taxpayer digital registration and identification systems, while RCE has the lowest deviation, indicating relative stability in revenue collection efficiency during the study period.

The skewness statistics reveal the nature of the variables' distributions. RCE and ATARS are negatively skewed, indicating leftward-tailed distributions, while ETFS, EPP, and TDRIS are positively skewed, indicating rightward-tailed distributions. The kurtosis values indicate that RCE, ETFS, TDRIS, and ATARS are leptokurtic because they exceed

3, suggesting peaked distributions with outliers. However, EPP has a kurtosis value slightly below 3, indicating a relatively normal distribution. The Jarque-Bera statistics and their corresponding probability values were used to test the normality of the variables. The p-values for all variables are less than 0.05, indicating that the variables are not normally distributed at the 5% significance level.

Fig 1: Result of the Histogram Normality Test



Source: Eviews 10 (2026)

Figure 1 presents the histogram normality test of the residuals obtained from the regression analysis. The histogram shows that the residuals are not perfectly normally distributed, as evidenced by the skewness and kurtosis statistics. The skewness value of -1.178115 indicates that the residuals are negatively skewed, implying a leftward-tailed

distribution. The kurtosis value of 7.406576, which is greater than 3, suggests that the distribution is leptokurtic, indicating a highly peaked shape with outliers.

The Jarque-Bera statistic of 398.4752 with a corresponding probability value of 0.000000 indicates that the residuals are not normally distributed at the 5% level of significance because the probability value is less than 0.05. However, despite the non-normality of the residuals, the large sample size of 383 observations reduces the potential effect of non-normality on the reliability of the regression estimates, according to the Central Limit Theorem.

4.3 Correlation Analysis

Table 2: Result of the Correlation Analysis

Covariance Analysis: Ordinary

Date: 05/27/26 Time: 14:46

Sample: 1 383

Included observations: 383

Correlation					
t-Statistic					
Probability	RCE	ETFS	EPP	TDRIS	ATARS
RCE	1.0000				

ETFS	0.3938	1.0000			
	8.3618	-----			
	0.0000	-----			
EPP	0.4435	0.6676	1.0000		
	9.6573	17.501	-----		

	0.0000	0.0000	-----		
TDRIS	0.4728	0.6427	0.6796	1.0000	
	10.474	16.374	18.080	-----	
	0.0000	0.0000	0.0000	-----	
ATARS	0.4238	0.5912	0.6130	0.6893	1.0000
	9.1328	14.309	15.144	18.572	-----
	0.0000	0.0000	0.0000	0.0000	-----

Source: Eviews 10 (2026)

Table 2 presents the correlation analysis among Revenue Collection Efficiency (RCE), Electronic Tax Filing Systems (ETFS), Electronic Payment Platforms (EPP), Taxpayer Digital Registration and Identification Systems (TDRIS), and Automated Tax Assessment and Reporting Systems (ATARS). The correlation matrix reveals that all explanatory variables have positive relationships with revenue collection efficiency and with one another. This suggests that improvements in digital tax administration systems are associated with increased revenue collection efficiency.

The result shows that ETFS has a moderate positive relationship with RCE, with a correlation coefficient of 0.393778. This implies that the adoption of electronic tax filing systems is associated with improvements in revenue collection efficiency. Similarly, EPP has a moderate positive relationship with RCE, as indicated by a correlation coefficient of 0.443453, while TDRIS and ATARS also exhibit moderate positive relationships with RCE, with coefficients of 0.472824 and 0.423792, respectively. Among the explanatory variables, the highest correlation coefficient is 0.689315 between TDRIS and ATARS,

indicating a strong positive association between taxpayer digital registration systems and automated tax assessment systems.

The p-values associated with the correlation coefficients are all less than 0.05, indicating that the relationships among the variables are statistically significant at the 5% level. The t-statistics further support the significance of the relationships among the variables. The result further indicates that none of the correlation coefficients exceeds the conventional benchmark of 0.7 for multicollinearity concerns. Although some variables exhibit relatively strong positive relationships, particularly between TDRIS and ATARS, the coefficients remain below the threshold. Therefore, the study concludes that there is no serious multicollinearity problem among the explanatory variables used in the regression model.

4.4 Regression Diagnostics

Test of Heteroskedasticity

Table 3: Results of the Breusch-Pagan-Godfrey Test of Heteroskedasticity
Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.555639	Prob. F(4,378)	0.6950
Obs*R-squared	2.238793	Prob. Chi-Square(4)	0.6919
Scaled explained SS	6.985476	Prob. Chi-Square(4)	0.1367

Source: Eviews 10 (2026)

The Breusch-Pagan-Godfrey test is used to detect heteroskedasticity. The F-statistic value is 0.555639, and the associated p-value is 0.6950. Since the p-value is significantly higher than the typical significance level (0.05), this suggests that there is no evidence of

heteroskedasticity. In other words, we fail to reject the null hypothesis that there is no heteroskedasticity.

Test of Serial Correlation

Table 4: Results of the Breusch-Godfrey Test of Serial Correlation

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.080018	Prob. F(2,376)	0.9231
Obs*R-squared	0.162946	Prob. Chi-Square(2)	0.9218

Source: Eviews 10 (2026)

The Breusch-Godfrey Serial Correlation LM Test is used to detect serial correlation (autocorrelation) in the residuals of a regression model. The F-statistic is 0.080018, and the associated p-value is 0.9231. Since the p-value exceeds the typical significance level of 0.05, we fail to reject the null hypothesis. This means that there is no evidence of serial correlation in the model's residuals.

Ramsey Reset Test

Table 5: Results of the Ramsey RESET of Model Specification

Ramsey RESET Test

Equation: UNTITLED

Specification: RCE ETFS EPP TDRIS ATARS C

Omitted Variables: Squares of fitted values

	Value	Df	Probability
t-statistic	1.301236	377	0.2017
F-statistic	1.693215	(1, 377)	0.2017
Likelihood ratio	1.889752	1	0.1692

F-test summary:

	Sum of Sq.	Df	Mean Squares
Test SSR	6.303059	1	6.303059
Restricted SSR	136.5919	378	3.794220
Unrestricted SSR	130.2888	377	3.722538

LR test summary:

	Value
Restricted LogL	-81.31991
Unrestricted LogL	-80.37503

Source: Eviews 10 (2026)

The Ramsey RESET Test is used to detect model misspecification, particularly to check if any important nonlinear relationships have been omitted from the model. The t-statistic and F-statistic values are 1.301236 and 1.693215, respectively, with a corresponding p-value of 0.2017. Since the p-value exceeds the conventional significance level of 0.05, we fail to reject the null hypothesis that the model is correctly specified. This suggests that there is no evidence of model misspecification based on this test.

4.5 Analysis of the Regression Result

Table 6: Results of the Regression Analysis

Dependent Variable: RCE

Method: Least Squares

Date: 05/27/26 Time: 14:42

Sample: 1 383

Included observations: 383

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ETFS	0.045811	0.053586	0.854909	0.3931
EPP	0.145889	0.057692	2.528756	0.0119
TDRIS	0.183176	0.054489	3.361725	0.0009

ATARS	0.102163	0.053033	1.926430	0.0548
C	1.309262	0.110580	11.83997	0.0000
R-squared	0.261419	Mean dependent var	2.533577	
Adjusted R-squared	0.253604	S.D. dependent var	0.199483	
S.E. of regression	0.172342	Akaike info criterion	-0.665707	
Sum squared resid	11.22722	Schwarz criterion	-0.614166	
Log likelihood	132.4828	Hannan-Quinn criter.	-0.645261	
F-statistic	33.44814	Durbin-Watson stat	1.991847	
Prob(F-statistic)	0.000000			

Source: Eviews 10 (2026)

The result of the regression analysis is presented in Table 6 above. The preliminary analysis shows a coefficient of multiple determination of 0.261419 and an adjusted value of 0.253604, which simply explains that 26.14% of the variation in revenue collection efficiency is explained by the independent variables considered in this study, which include: electronic tax filing systems, electronic payment platforms, taxpayer digital registration and identification system and automated tax assessment and reporting systems. The remaining 73.86% is captured by the error term. The F-statistic value of 33.44814, which is greater than 2, indicates that all the explanatory variables taken together are statistically significant.

4.6 Test of Hypotheses

Hypothesis one: There is no significant relationship between electronic tax filing systems and revenue collection efficiency in Nigeria

Electronic Tax Filing Systems (ETFS) showed a coefficient of 0.045811, indicating a positive relationship between ETFS and revenue collection efficiency in Nigeria. This implies that a one-unit improvement in electronic tax filing systems will lead to approximately a 4.58% increase in revenue collection efficiency. However, the result further revealed a t-value of 0.854909, which is less than 2, indicating that electronic tax filing systems have no significant effect on revenue collection efficiency. This is further supported by the p-value of 0.3931, which is greater than 0.05. Therefore, the null hypothesis that there is no significant relationship between electronic tax filing systems and revenue collection efficiency in Nigeria is rejected at the 5% significance level.

Hypothesis two: There is no significant relationship between electronic payment platforms and revenue collection efficiency in Nigeria

Electronic Payment Platforms (EPP) reported a coefficient of 0.145889, indicating a positive relationship between EPPs and revenue collection efficiency in Nigeria. This suggests that a one-unit increase in electronic payment platforms is associated with approximately a 14.59% increase in revenue collection efficiency. The result also revealed a t-value of 2.528756, which is greater than 2, indicating that electronic payment platforms have a significant effect on revenue collection efficiency. This is confirmed by the

probability value of 0.0119, which is less than 0.05. Therefore, the null hypothesis that there is no significant relationship between electronic payment platforms and revenue collection efficiency in Nigeria is rejected at the 5% significance level.

Hypothesis three: There is no significant relationship between taxpayer digital registration and identification systems and revenue collection efficiency in Nigeria

Taxpayer Digital Registration and Identification Systems (TDRIS) revealed a coefficient of 0.183176, indicating a positive relationship between TDRIS and revenue collection efficiency in Nigeria. This means that a one-unit increase in taxpayer digital registration and identification systems will lead to approximately an 18.32% increase in revenue collection efficiency. The result further showed a t-value of 3.361725, which is greater than 2, indicating that taxpayer digital registration and identification systems have a significant effect on revenue collection efficiency. This is supported by the probability value of 0.0009, which is less than 0.05. Therefore, the null hypothesis that there is no significant relationship between taxpayer digital registration and identification systems and revenue collection efficiency in Nigeria is rejected at the 5% significance level.

Hypothesis three: There is no significant relationship between automated tax assessment and reporting systems and revenue collection efficiency in Nigeria

Automated Tax Assessment and Reporting Systems (ATARS) reported a coefficient of 0.102163, indicating a positive relationship between ATARS and revenue collection efficiency in Nigeria. This implies that a one-unit increase in automated tax

assessment and reporting systems will result in approximately a 10.22% increase in revenue collection efficiency. However, the result revealed a t-value of 1.926430, which is less than 2, indicating that automated tax assessment and reporting systems have no significant effect on revenue collection efficiency. This is further supported by the p-value of 0.0548, which is greater than 0.05. Therefore, the null hypothesis stating that there is no significant relationship between automated tax assessment and reporting systems and revenue collection efficiency in Nigeria is accepted at the 5% level of significance.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION, AND RECOMMENDATIONS

5.1 Summary of Findings

1. The study found that electronic tax filing systems have a positive but insignificant relationship with revenue collection efficiency in Nigeria. This implies that although electronic tax filing systems contribute positively to revenue generation, their impact on revenue collection efficiency was not statistically significant during the study period.
2. The findings revealed that electronic payment platforms have a positive and significant effect on revenue collection efficiency in Nigeria. This indicates that improvements in electronic payment systems enhance the efficiency of tax revenue collection by facilitating easier, faster, and more transparent payment processes.
3. The study further found that taxpayer digital registration and identification systems have a positive and significant relationship with revenue collection efficiency in Nigeria. This suggests that effective taxpayer digital registration and identification mechanisms improve tax administration and significantly enhance revenue collection efficiency.

4. The findings also revealed that automated tax assessment and reporting systems have a positive but insignificant effect on revenue collection efficiency in Nigeria. This indicates that although automated assessment and reporting systems support tax administration processes, their influence on revenue collection efficiency was not statistically significant within the period covered by the study.

5.2 Conclusion

The study examines the effect of digital tax systems on revenue collection efficiency in Nigeria. The study focused on key stakeholders involved in the administration and utilisation of digital tax systems in Nigeria, from which a sample of 384 stakeholders was selected. Different statistical and econometric measures were carried out, and the empirical results revealed that electronic payment platforms and the taxpayer digital registration and identification system have a positive and statistically significant impact on revenue collection efficiency in Nigeria, while electronic tax filing systems and automated tax assessment and reporting systems have a positive and statistically insignificant impact on revenue collection efficiency in Nigeria

5.3 Recommendations

The following recommendations were made in line with the above findings:

1. Government tax authorities should improve the efficiency and accessibility of electronic tax filing systems by investing in better digital infrastructure, taxpayer education, and technical support services. This will encourage wider adoption of

electronic tax filing systems and enhance their contribution to revenue collection efficiency in Nigeria.

2. Tax authorities should continue to strengthen and expand electronic payment platforms by ensuring secure, reliable, and user-friendly payment channels for taxpayers. This will further improve transparency, reduce tax leakages, and enhance revenue collection efficiency across the tax administration system.
3. Government agencies should intensify the implementation of taxpayer digital registration and identification systems through comprehensive taxpayer databases and integrated digital identification mechanisms. This will improve taxpayer tracking, reduce tax evasion, and significantly enhance revenue collection efficiency in Nigeria.
4. Tax authorities should enhance automated tax assessment and reporting systems by upgrading technological infrastructure, improving data integration, and ensuring regular system monitoring and maintenance. This will increase the effectiveness of automated tax administration processes and improve their contribution to revenue collection efficiency over time.

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APPENDICES

APPENDIX I (Research Instrument)

**FACULTY OF MANAGEMENT SCIENCES
DEPARTMENT OF ACCOUNTING
UNIVERSITY OF BENIN, BENIN CITY**

QUESTIONNAIRE ON DIGITAL TAX SYSTEMS AND REVENUE COLLECTION EFFICIENCY

Dear Respondents,

I am a final-year student in the Department of Accounting, University of Benin. I am conducting a research study on the impact of Digital Tax Systems on Revenue Collection Efficiency in Nigeria.

This questionnaire is designed strictly for academic purposes. Kindly respond sincerely to the questions by ticking [✓] where applicable. The questionnaire will take approximately 5 minutes to complete. Your response is vital to the success of this study, as it will provide valuable insights into how digital tax systems influence revenue collection efficiency in Nigeria.

Please be assured that all information provided will be treated with the utmost confidentiality and will be used solely for academic purposes.

Thank you for your cooperation.

Odiase Davina Ominken

davina.odiase@mgtsci.uniben.edu

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Section A: DEMOGRAPHIC INFORMATION

Please provide the following basic information:

1. Gender

☐ Male

☐ Female

2. Age

☐ 18–25 years

☐ 26–35 years

☐ 36–45 years

☐ 46–55 years

☐ 56 years and above

3. Highest Educational Qualification

☐ SSCE or Equivalent

☐ ND/NCE

☐ HND/BSc

☐ MSc/MBA

☐ PhD

☐ Other (Please specify): _____

4. Employment Category

- ☐ Staff of Nigeria Revenue Service (NRS)
- ☐ Tax Consultant / Tax Practitioner
- ☐ Private Sector Employee (Taxpayer)
- ☐ Self-Employed / Business Owner
- ☐ Other (Please specify): _____

5. Department/Unit (For NRS Staff Only)

- ☐ Tax Operations
- ☐ ICT/Digital Systems
- ☐ Audit/Compliance
- ☐ Administration
- ☐ Not Applicable

6. Years of Experience in Tax-Related Activities

- ☐ 0–2 years
- ☐ 3–5 years
- ☐ 6–10 years
- ☐ 11–15 years
- ☐ 16 years and above

7. Frequency of Use of Digital Tax Platforms (e-filing, e-payment, TIN registration, etc.)

- ☐ Very Frequently
- ☐ Frequently
- ☐ Occasionally
- ☐ Rarely
- ☐ Never

8. Type of Digital Tax Service Most Frequently Used

- ☐ Electronic Tax Filing (E-Filing)
- ☐ Electronic Payment Platforms
- ☐ Digital Tax Registration (TIN)
- ☐ Automated Assessment/Reporting Systems
- ☐ Not Applicable

Instructions: Please indicate your level of agreement with each statement by ticking [✓] the appropriate box. Use the following scale:

- SA = Strongly Agree
- A = Agree
- N = Neutral
- D = Disagree
- SD = Strongly Disagree

Section B: PERCEPTION OF REVENUE COLLECTION EFFICIENCY (RCE)

S/N	REVENUE COLLECTION EFFICIENCY	SA	A	N	D	SD
1	Tax revenues are collected in a timely manner in Nigeria.					
2	Revenue leakages in tax collection have reduced in recent years.					
3	The cost of tax administration has reduced due to improved processes.					
4	Tax revenue records are more accurate and traceable than before.					
5	Overall, tax revenue collection is more efficient than it used to be.					

Section C: PERCEPTION OF ELECTRONIC TAX FILING SYSTEMS (ETFS)

S/N	ELECTRONIC TAX FILING SYSTEMS	SA	A	N	D	SD
6	E-filing makes tax return submission faster than manual filing.					
7	E-filing platforms are easy to use and understand.					
8	E-filing reduces filing errors and mistakes.					
9	E-filing improves compliance because taxpayers can file without stress.					
10	E-filing improves transparency by reducing human interference.					

Section D: PERCEPTION OF ELECTRONIC PAYMENT PLATFORMS (EPP)

S/N	ELECTRONIC PAYMENT PLATFORMS	SA	A	N	D	SD
11	E-payment platforms make tax payment easier and more convenient.					
12	E-payment platforms reduce cash handling and revenue diversion.					
13	E-payment systems provide immediate confirmation/receipts for payments made.					
14	E-payment platforms improve monitoring and tracking of tax payments.					
15	Technical issues rarely prevent successful tax payments online.					

Section E: PERCEPTION OF TAXPAYER DIGITAL REGISTRATION & IDENTIFICATION SYSTEMS (TDRIS)

S/N	TAXPAYER DIGITAL REGISTRATION & IDENTIFICATION SYSTEMS	SA	A	N	D	SD
16	Digital registration makes taxpayer enrollment faster and easier.					
17	The TIN/identification system improves taxpayer tracking and monitoring.					
18	Digital taxpayer identification reduces duplication and ghost taxpayers.					
19	Digital registration helps broaden the tax base by capturing more taxpayers.					
20	Digital registration improves compliance enforcement and audit processes.					

Section F: PERCEPTION OF AUTOMATED TAX ASSESSMENT & REPORTING SYSTEMS (ATARS)

S/N	AUTOMATED TAX ASSESSMENT & REPORTING SYSTEMS	SA	A	N	D	SD
21	Automated systems compute tax liabilities more accurately than manual processes.					
22	Automation reduces delays in tax assessment and processing.					
23	Automated reporting improves transparency and record-keeping in tax administration.					
24	Automation reduces opportunities for manipulation and corruption in assessment.					
25	Automated systems improve the overall efficiency of revenue collection.					